

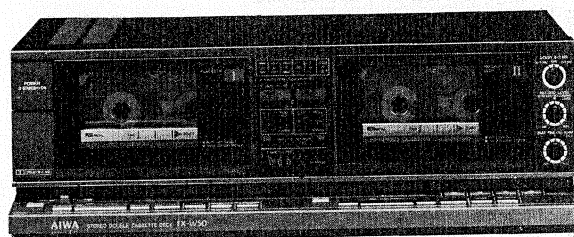
AIWA[®] SERVICE MANUAL

S/M Code No. 84-015
DATE OF ISSUE 7/1984

MODEL NO.

FX-W50

STEREO CASSETTE DECK



TYPE. HS, HB, UB, ES, EB, KS, KB, G, ZB

SPECIFICATIONS

GENERAL

Power source: HS, HB models
AC 120V/220V/240V
Switchable 50/60 Hz
UB model
AC 120V, 60 Hz
ES, EB, ZB models
AC 220V, 50/60 Hz
KS, KB, G models
AC 240V, 50/60 Hz

Power consumption: 15W

Dimensions: 330(W) × 107(H) × 230(D) mm
(13" × 4 1/4" × 7/8")

Weight: 4.3 Kg (9.47 lbs.)

Track type: 4 track 2 channels

Tape speed: 4.8 cm/s. (1-7/8 ips)
9.5 cm/s. (High speed)

Wow and flutter: 0.04% (WRMS)

Automatic stop system:
Full auto stop

Automatic shut-off action time:
Less than 3s.

Pinch roller pressure:
155 ± 10g (1.52 ± 0.098 N)

Take-up torque: $40 \begin{smallmatrix} +10 \\ -13 \end{smallmatrix}$ g-cm ($0.39 \begin{smallmatrix} +0.098 \\ -0.12 \end{smallmatrix}$ mN·m)

FF & rewind torque:
150 ± 30 g-cm (1.47 ± 0.29 mN·m)

FF & rewind time:
65 ± 10s. (C-60)

Back tension: 3 ± 1g-cm

Counter indication error:
0 ± 3

Playback output: 400 mV ± 1 dB (LINE)
(TTA-161)

Playback noise: Less than 1.5 mV
(CrO₂, DOLBY B NR ON)
Less than 2.0 mV
(METAL DOLBY C NR)
Less than 3.0 mV
(NORMAL DOLBY NR OFF)

Timer recording operation time:
4 ± 2s

REC/PB output: 280 mV ± 1.5 dB

Recording system: AC bias

Erasing system: AC erase

REC/PB distortion:

(400 Hz, OVU) Less than 2.0%
(LINE IN, REC/PB, METAL, CrO₂)
Less than 2.5%
(LINE IN NORMAL)

REC/PB SN ratio: More than 42 dB
(400 Hz, OVU) (METAL, CrO₂, DOLBY NR OFF)
(Un weighted) More than 40 dB
(NORMAL, DOLBY NR OFF)
(WTD-A) More than 47/48 dB
(METAL, CrO₂, DOLBY B/C NR)
More than 45/46 dB
(NORMAL, DOLBY B/C NR)

Channel separation:

(1 kHz, OVU) More than 30 dB

Erasing ratio: More than 60 dB (125 Hz)

Bias frequency: 100 kHz

Frequency response:

METAL : 20 ~ 18,000 Hz
CrO₂ : 20 ~ 17,000 Hz
NORMAL : 20 ~ 16,000 Hz

Motor:

DC servomotor × 2
DC motor × 2

Heads:

Playback head : DX head (DECK I)
Record /playback head :
DX head (DECK II)

Erase head : Double-gap ferrite head

Input/impedance: LINE IN 230 mV/47 kΩ

Output/impedance/load impedance:

LINE OUT 280mV/2.2 kΩ
(Suitable load impedance 27 kΩ)

TEST TAPE:

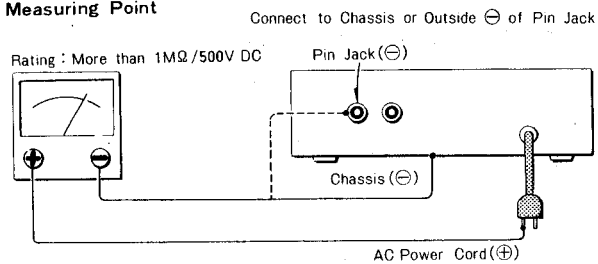
TTA-119MX (METAL)
TTA-119G (CrO₂)
TTA-119J (NORMAL)

- Specifications and external appearance are subject to change without due to product improvement.
- Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.
- Dolby and the  symbol are trademarks of Dolby Laboratories Licensing Corporation.

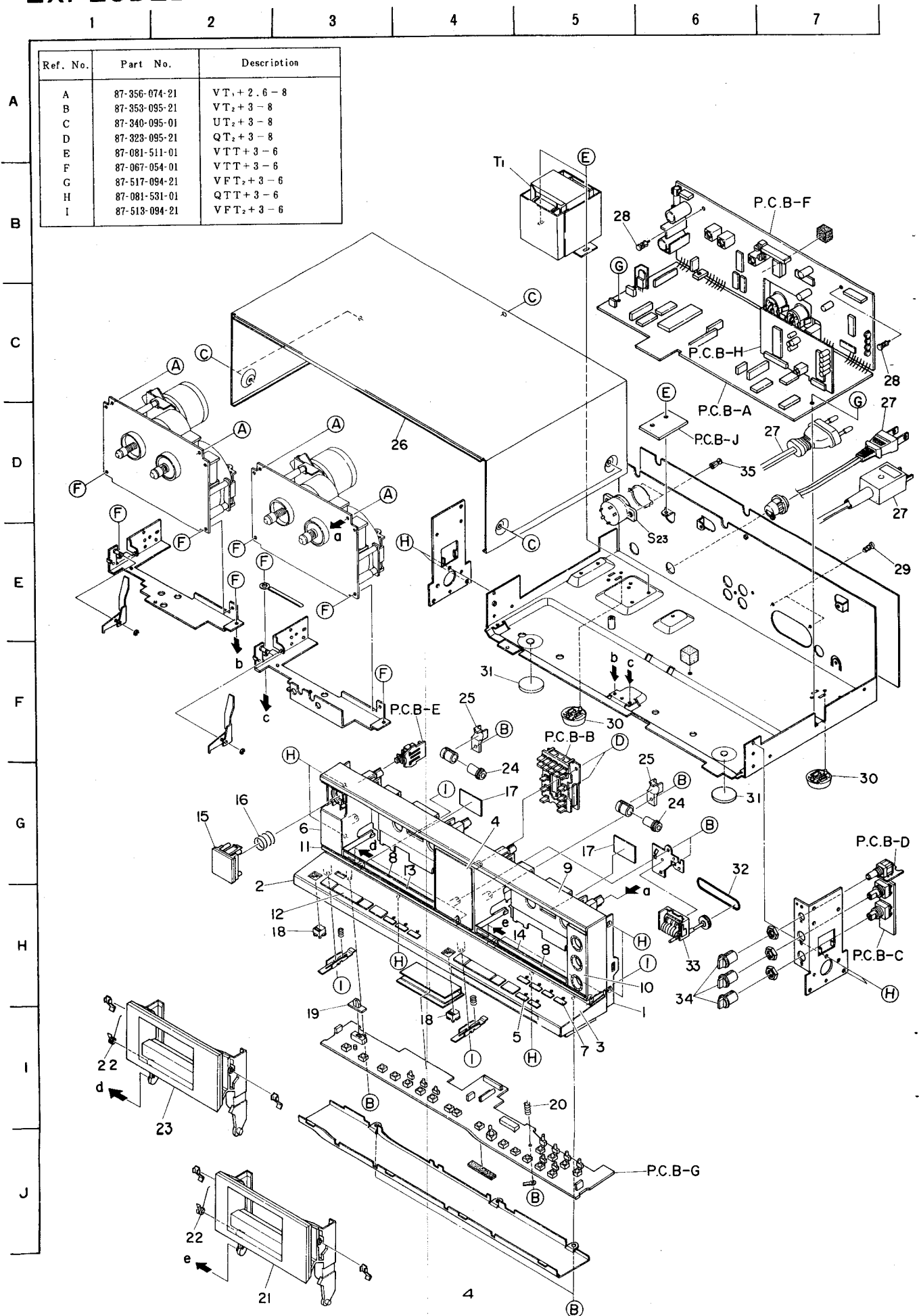
Follow the instructions carefully, which will allow the user to optimise the products' performance and give many years of service.

1. No scratch and melting shall be made to covered lead-wires of an a.c. primary circuit including mains leads.
2. No illegibility shall be given to the specification plate, the caution labels, the fuse labels and others.
3. When, on pattern sides of circuit boards, additional repair-parts have been made up, the parts shall be firmly glued to circuit boards or other components, unless the parts can be attached firmly.
4. The following matters shall be maintained as they are, when repairing.
 - 1) Soldering of lead-wire ends
 - * Care should be taken of the space distance in an a.c. primary circuit as well as soldering.
 - 2) Wiring and holding of lead-wires with wire-clips and binders
 - 3) Materials of lead-wires
 - * e.g.; For UL models, lead-wires to be used shall be approved or accepted by the UL.
 - 4) Location of all kinds of insulators
 - 5) Setting of voltage selector switch
 - * Set the Voltage Selector Switch to 240V, 220V, or 120V, According to your Local Voltage.
5. After repaired, the insulation resistance or leakage current shall be measured with $500 \pm 5V$ D.C and shall be not less than $1M\Omega$.
6. General instructions for mechanism repair
 - 1) The heads, capstan and pinch roller shall be cleaned of good quality alcohol after repaired, because dirty heads shall cause distorted sounds while dirty capstan and pinch roller shall occur wow/flutter and take-up fault.
 - 2) Lubricants been stained the surfaces of transmitting portion of the belts, idlers, capstan and pinch roller shall be removed, because slippery and faulty tape travel shall be caused.
 - 3) When oiling, only one or two drops shall be applied so as not to run over and be dispersed. Note should be taken of the metal fitting for the capstan and rotating portions of the idlers and pinch roller, especially.
 - 4) E-rings and poly slider washers shall be replaced with new ones, if once those have been removed. — No re-utilization due to unreliability.
 - 5) Regular spare-parts shall always be used for repair, because using irregular parts and tampering with the products shall cause deterioration, malfunction and damage.

Measuring Point



EXPLODED VIEW - I



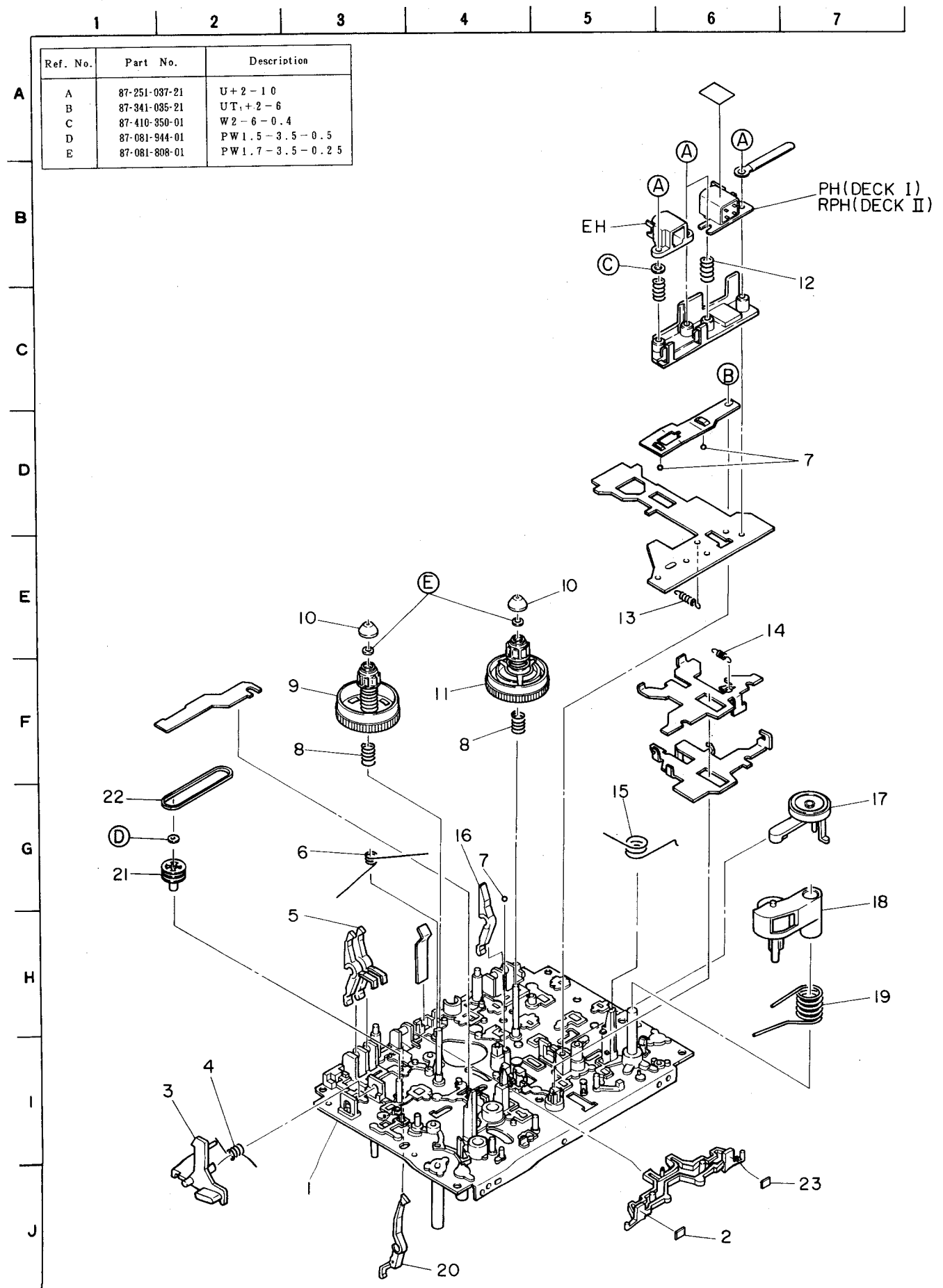
PARTS LIST

MECHANICAL PARTS

●※ mark in this part list shows exclusive part.
●★ mark means less required items and availabilities may be limited.

Part No. changed to	Ref. No.	Part No.	Description	Common Model	Q'ty
	1-1~17	82-130-026	FRONT CABINET Ass'y (HS, ES, KS, G only)	※	1
		82-130-045	FRONT CABINET Ass'y (HB, UB, EB, KB, ZB only)	※	1
1-18	★82-198-016		KNOB, EJECT	FX-110	2
1-19	★82-197-021		SLIDE KNOB, TIMER	FX-90	1
1-20	★82-197-218		C-SPRING, FRONT EARTH	FX-90	1
1-21	82-130-016		CASSETTE BOX-R Ass'y	※	1
1-22	★82-197-207		T-SPRING, EJECT	FX-90	2
1-23	82-130-013		CASSETTE BOX-L Ass'y	※	1
1-24	★82-534-264		GEAR, OIL-DAMP		2
1-25	★82-683-212		HOLDER, OIL-DAMP (2)		2
1-26	★82-130-028		CABINET, STEEL (HS, ES, KS, G only)	※	1
	★82-130-043		CABINET, STEEL (HB, UB, EB, KB, ZB only)	※	1
1-27	★87-034-962		AC POWER CORD (HS only)		1
	★87-034-992		AC POWER CORD (HB only)		1
	★87-034-578		AC POWER CORD (UB only)		1
	★82-778-674		AC POWER CORD (ES, EB, ZB only)		1
	★87-034-708		AC POWER CORD (KS, KB, G only)		1
1-28	87-084-063		NYLON RIVET 3-5.5		2
1-29	87-085-102		NYLON RIVET 3.5-5.5		2
1-30	87-085-186		FOOT		2
1-31	82-130-038		RUBBER FOOT 20	※	2
1-32	81-505-309		RUBBER BELT 47		1
1-33	★87-040-169		COUNTER		1
1-34	82-192-040		KNOB B	FX-30	3
1-35	87-085-090		NYLON RIVET 3-6.5 (HS, HB only)		2

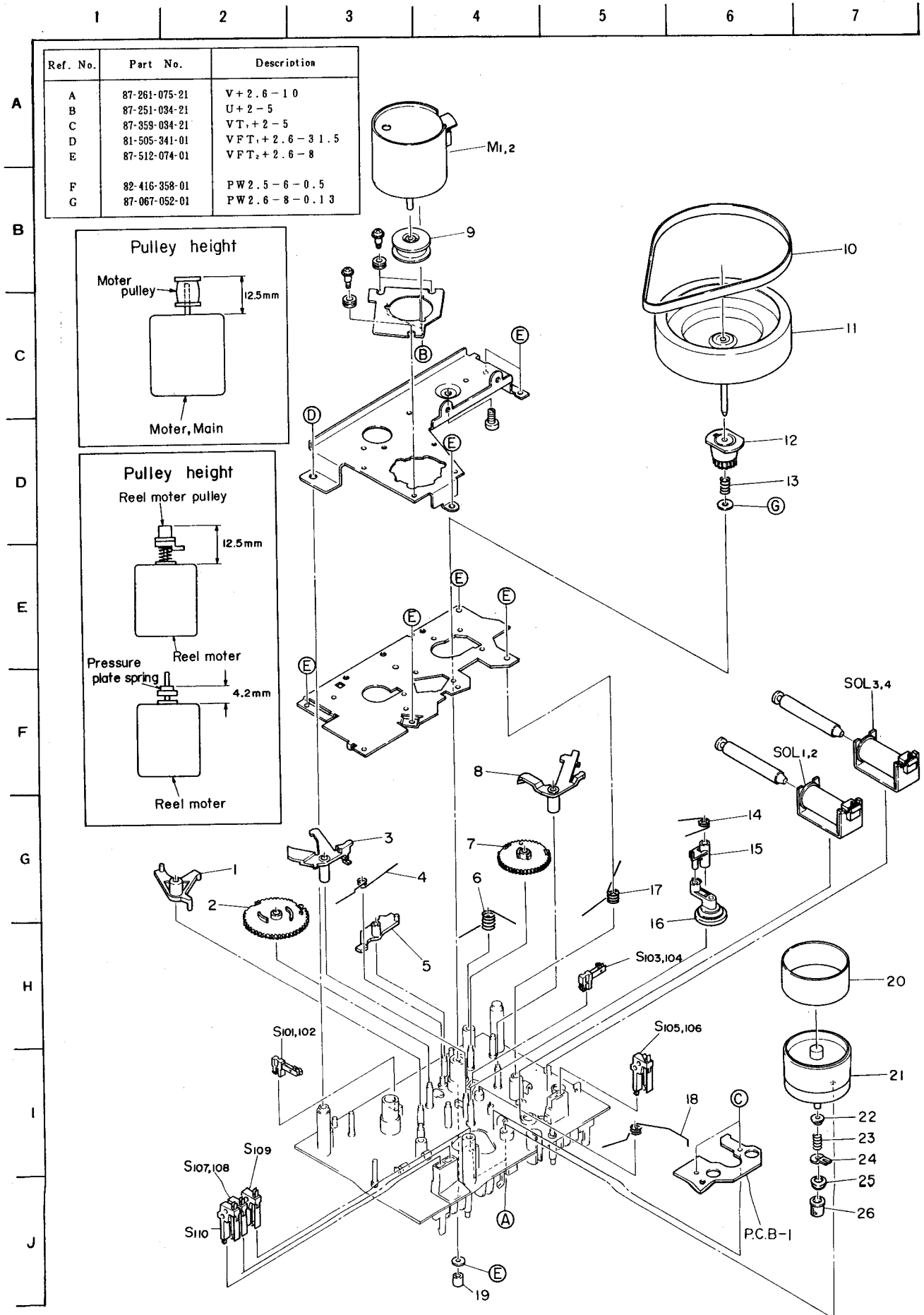
EXPLODED VIEW-2



* The following parts list shows the common parts of I and II Decks, and also the exclusive parts of II Deck.

Part No. changed to	Ref. No.	Part No.	Description	Common Model	Q'ty	
	2-1	★81-505-297	OUTSERT Ass'y P1 (DECK I)		1	
		★81-505-312	OUTSERT Ass'y P2 (DECK II)		1	
	2-2	★81-505-313	FELT 6-3-3.3		1	
	2-3	★81-505-239	LEVER. EJECT		1	
	2-4	★81-505-273	T-SPRING. LID LOCK		1	
	2-5	★81-505-241	LEVER CrO ₂ . REC BLOCKING	DECK I: 1 / DECK II: 2		
	2-6	★81-505-268	T-SPRING. SLIDE BRAKE		1	
	2-7	★81-073-005	STEEL BALL 2		3	
	2-8	★81-505-274	C-SPRING. SUPPLY REEL PLATFORM		2	
	2-9	81-505-275	SUPPLY REEL PLATFORM Ass'y		1	
	2-10	★82-303-398	CAP. TAKE-UP REEL PLATFORM		2	
	2-11	81-505-276	TAKE-UP REEL PLATFORM Ass'y		1	
	2-12	★81-505-262	C-SPRING. RPH		1	
	2-13	★81-505-333	E-SPRING. ACTUATING CHASSIS A		1	
	2-14	★81-505-266	E-SPRING. PLATE PAUSE		1	
	2-15	★81-505-270	T-SPRING. IDLER LEVER		1	
	2-16	★81-505-240	LEVER. CASSETTE CENSER		1	
	2-17	★81-505-344	IDLER LEVER Ass'y 2		1	
	2-18	81-505-210	PINCH LEVER F Ass'y		1	
	2-19	★81-505-302	T-SPRING. PINCH FP		1	
	2-20	★81-505-242	LEVER. METAL (DECK II only)		1	
	2-21	82-585-427	RELAY PULLEY (DECK II only)		1	
	2-22	82-461-318	COUNTER BELT B (DECK II only)		1	
	2-23	★81-505-346	FELT 6.3-2.5		1	

EXPLODED VIEW-3



Part No. changed to	Ref. No.	Part No.	Description	Common Model	Q'ty	
	3-1	★81-505-230	LEVER, PLAY		1	
	3-2	81-505-234	GEAR, PLAY CAM		1	
	3-3	★81-505-231	TRIGGER LEVER, PLAY		1	
	3-4	★81-505-332	T-SPRING, CAM A		1	
	3-5	★81-505-232	LEVER, PAUSE		1	
	3-6	★81-505-283	T-SPRING, LEVER PAUSE		1	
	3-7	81-505-235	GEAR, PAUSE CAM		1	
	3-8	★81-505-233	TRIGGER LEVER, PAUSE		1	
	3-9	81-505-349	MOTOR PULLEY 2-15		1	
	3-10	81-506-318	RUBBER BELT C		1	
	3-11	81-505-316	FLYWHEEL C Ass'y		1	
	3-12	81-505-225	GEAR, FLYWHEEL		1	
	3-13	★81-505-261	C-SPRING, FLYWHEEL F		1	
	3-14	★81-505-282	T-SPRING, FR IDLER		1	
	3-15	★81-505-254	IDLER LEVER, FRA		1	
	3-16	81-505-301	FR IDLER Ass'y P		1	
	3-17	★81-505-271	T-SPRING, TRIGGER LEVER		1	
	3-18	★81-505-269	T-SPRING, PLATE PINCH		1	
	3-19	81-505-246	RUBBER, DRIVE		1	
	3-20~26	09-047-198	REEL MOTOR Ass'y		1	

■ ACCESSORIES/PACKAGE LIST

Part No. changed to	Ref. No.	Part No.	Description	Common Model	Q'ty	
	1	82-130-907	INSTRUCTIONS BOOKLET	※	1	
	2	★87-034-970	CONNECTION CORD. CW-258FSK		2	
	3	★87-034-978	CONNECTION CORD. CW-254BSK		2	

ADJUSTMENT (FX-W50)

7. Record/playback frequency characteristics adjustment

Settings: • Test tape: TTA-119J
• BIAS FINE, REC LEVEL: Center detent positions
• Input signal: DIN IN pin1 (L-ch) and pin4 (R-ch), 1kHz/10kHz, 23mV.

Method: Set Deck II to the record mode, and check that the output level of DIN OUT is set to $28\text{ mV} \pm 0.5\text{ dB}$. Load tape TTA-119J, record and play back the 1kHz/10kHz signals and adjust so that the output level of 10kHz is set to $0 \pm 0.5\text{ dB}$ against the one of 1kHz.

Check: Play back the above recorded sections using Deck I and check that the output level of 10kHz is $0 \pm 0.5\text{ dB}$ against the one of 1kHz.

Ratings: • CrO₂ tape (TTA-119G): $0 \pm 2.5\text{ dB}$
• METAL tape (TTA-119MX): $0 \pm 3\text{ dB}$

3. Playback frequency response adjustment

Settings: • Test tape: TTA-317E
• Test points: DIN OUT pin3 (L-ch) and pin5 (R-ch)
• Adjusting points: (DECK I)
SFR505 (L-ch) and
SFR506 (R-ch)
(DECK II)
SFR509 (L-ch) and
SFR510 (R-ch)

Method: Play back alignment tape and adjust so that the output level of 10kHz is $0 \pm 0.5\text{ dB}$ against the one of 1kHz.

4. PB sensitivity adjustment

Settings: • Test tape: TTA-161
• Test points: DIN OUT pin3 (L-ch) and pin5 (R-ch)
• Adjusting points: (DECK I)
SFR501 (L-ch) and
SFR502 (R-ch)
(DECK II)
SFR507 (L-ch) and
SFR508 (R-ch)

Method: Adjust so that the output level of DIN OUT is set to $400\text{ mV} \pm 0.5\text{ dB}$ in Deck I and Deck II.

5. Deck I PB frequency characteristics adjustment in the high speed mode.

Settings: • Test tape: TTA-317H (or TTA-317E)
• Dubbing switch: HIGH SPEED
• Test points: DIN OUT pin3 (L-ch) and pin5 (R-ch)
• Adjusting points: SFR503 (L-ch) and SFR504 (R-ch)

Method: Play back the 2kHz/20kHz signals (high speed mode) (1kHz/10kHz signals in normal speed mode) and adjust so that the output level difference of DIN OUT is $1 \pm 0.5\text{ dB}$.

6. Bias oscillation frequency adjustment

Settings: • Test tape: TTA-119MX
• Test point: TP2
• Adjusting point: L406

Method: Set Deck II to the record mode, adjust so that the oscillation frequency is $100\text{ kHz} \pm 5\text{ kHz}$.

2. Tape speed adjustment

Settings: • Test point: TP1

	High speed	Normal speed
Test tape	TTA-111H	TTA-111S
TP1 (Test pin)	To chassis ground	Open
Adjustment point (DECK I)	SFR802	SFR804
Adjustment point (DECK II)	SFR801	SFR803

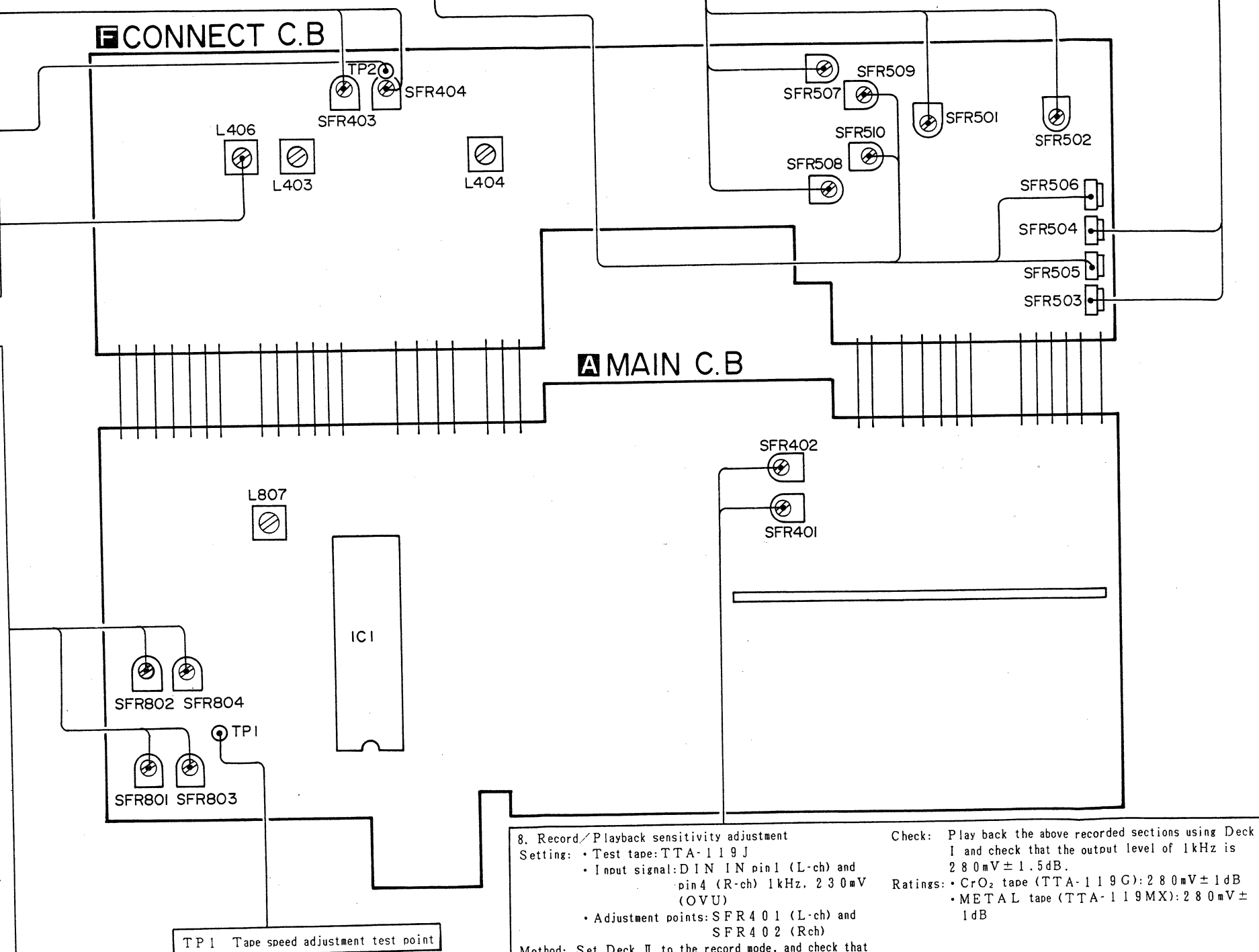
Method: (DECK I)

- High speed: Load TTA-111H, set to the high speed play mode.
(Connect TP1 to GND)
Adjust SFR802 so that the speed is set to $-0.8 \sim -0.5\%$.
- Normal speed: Load TTA-111S, set to the normal speed play mode.
(Open the TP1)
Adjust SFR804 so that the speed is set to $-0.8 \sim -0.5\%$.

(DECK II)

- High speed: Load TTA-111H, set to the high speed play mode.
(Connect TP1 to GND)
Adjust SFR801 so that the speed is set to $-0.8 \sim -0.5\%$.
- Normal speed: Load TTA-111S, set to the normal speed play mode.
(Open the TP1)
Adjust SFR803 so that the speed is set to $-0.8 \sim -0.5\%$.

Caution: Be sure to perform high speed adjustment and normal speed adjustment in sequence. When the adjustment is performed in the reverse procedure or when only the normal speed adjustment is performed, the high speed may become out of order.



8. Record/Playback sensitivity adjustment

Setting: • Test tape: TTA-119J
• Input signal: DIN IN pin1 (L-ch) and pin4 (R-ch) 1kHz, 230mV (OVU)
• Adjustment points: SFR401 (L-ch) and SFR402 (Rch)

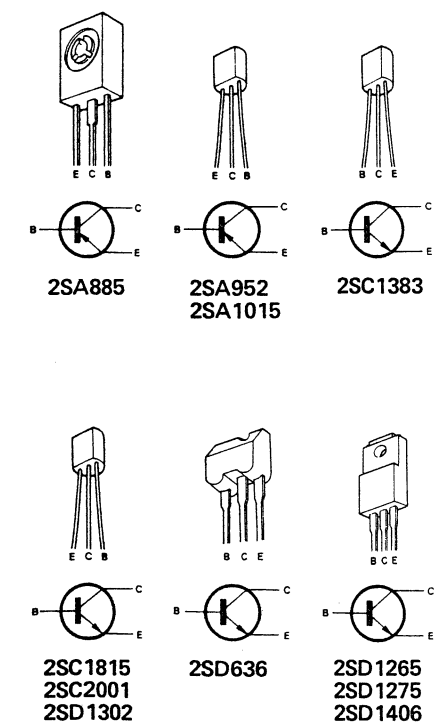
Method: Set Deck II to the record mode, and check that the output level of DIN OUT is set to $280\text{ mV} \pm 0.5\text{ dB}$. Load tape TTA-119J, record and play back the 1kHz signal and adjust so that the output level is set to $280\text{ mV} \pm 0.5\text{ dB}$.

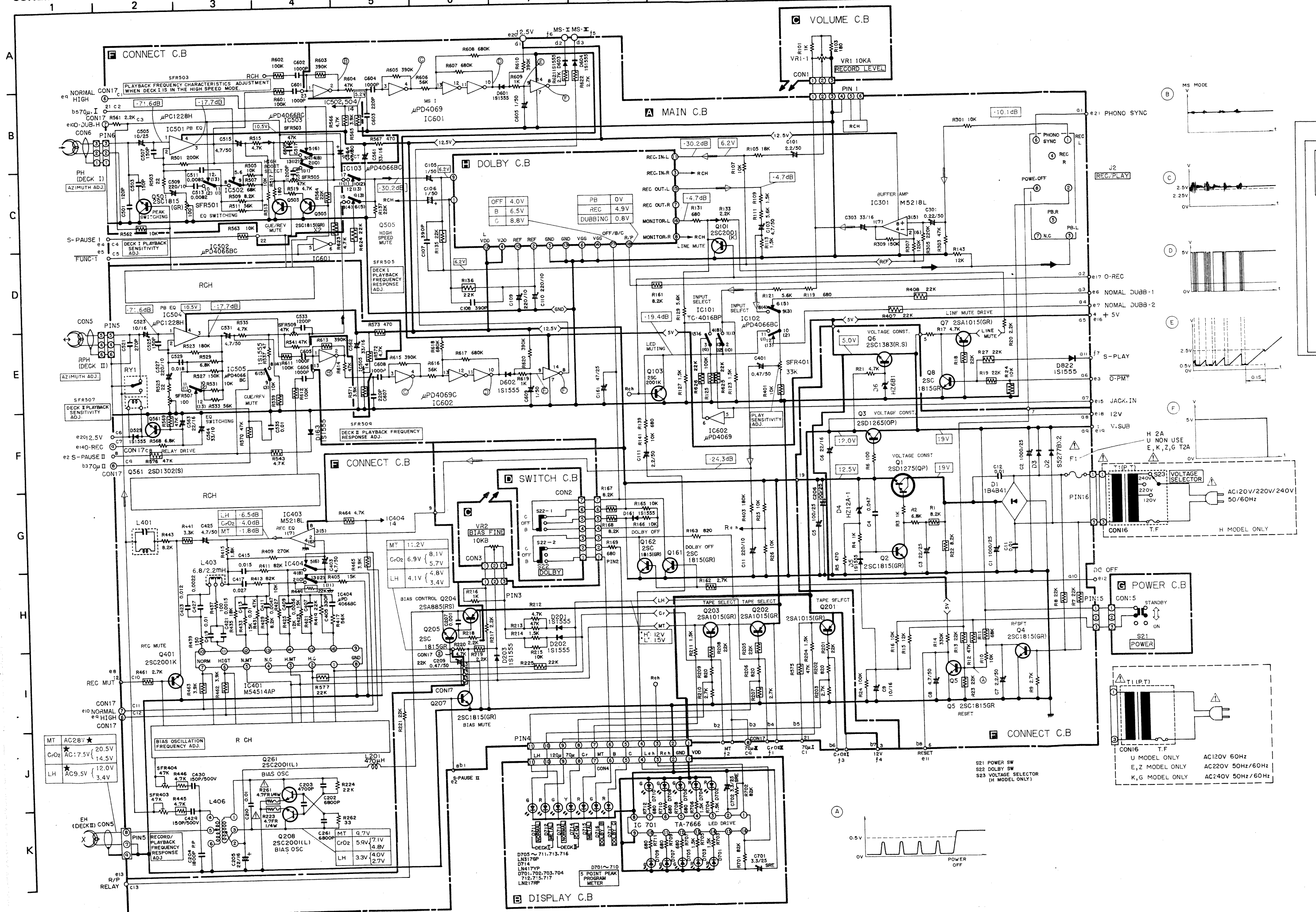
Check: Play back the above recorded sections using Deck I and check that the output level of 1kHz is $280\text{ mV} \pm 1.5\text{ dB}$.

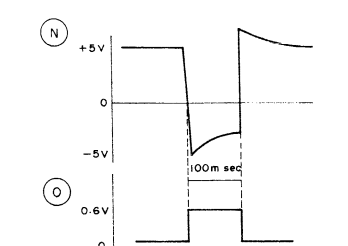
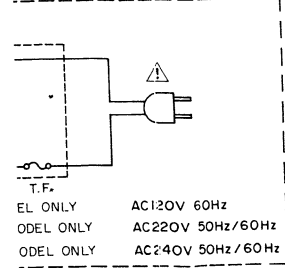
Ratings: • CrO₂ tape (TTA-119G): $280\text{ mV} \pm 1\text{ dB}$
• METAL tape (TTA-119MX): $280\text{ mV} \pm 1\text{ dB}$



- This schematic diagram is subject to change without notice in the interests of improved performance.







However, the DC synchro jack is set to GND when the plug is not inserted.

NOTES:

- 1) B (+) power supply
- 2) Signal path
- Rec path

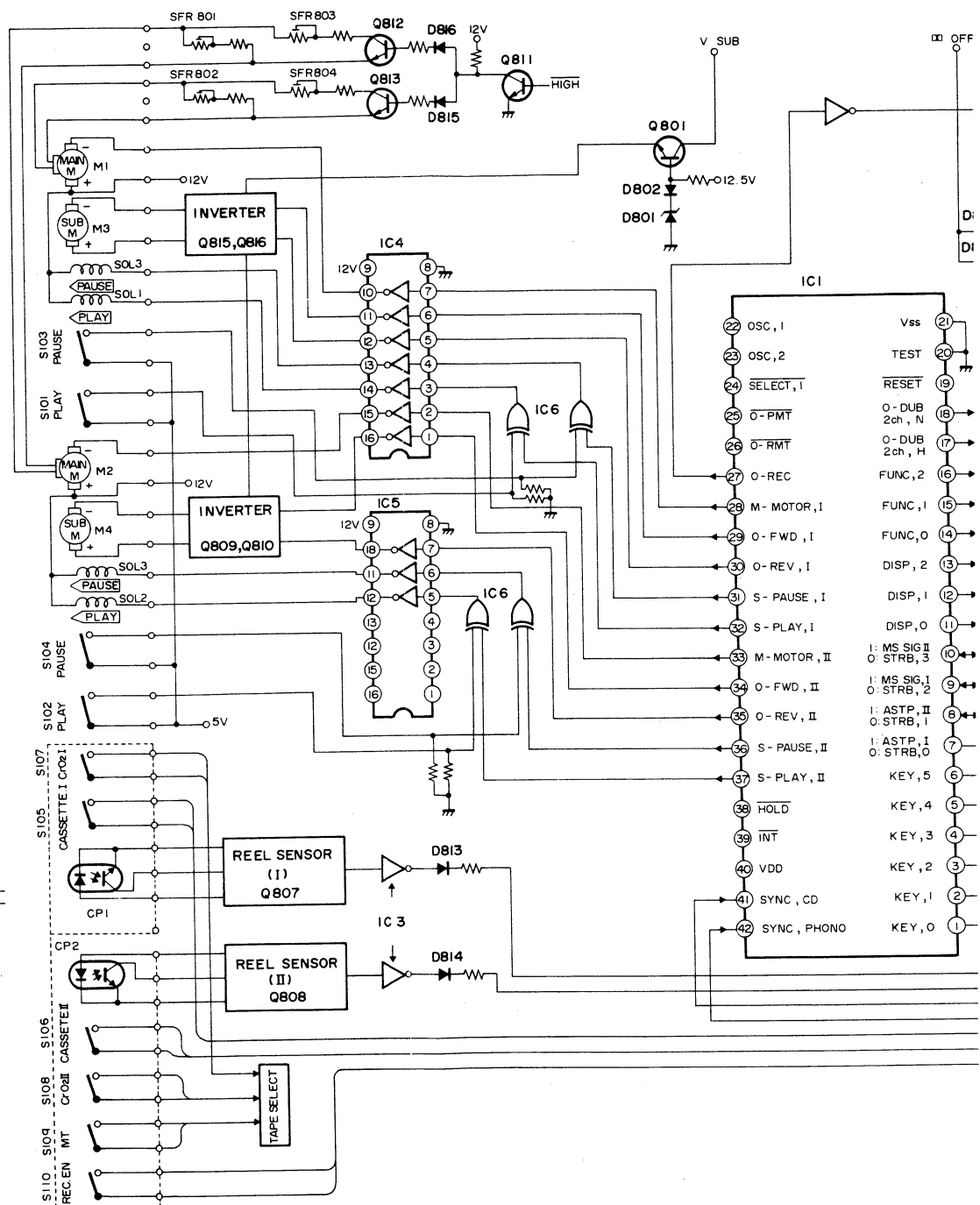
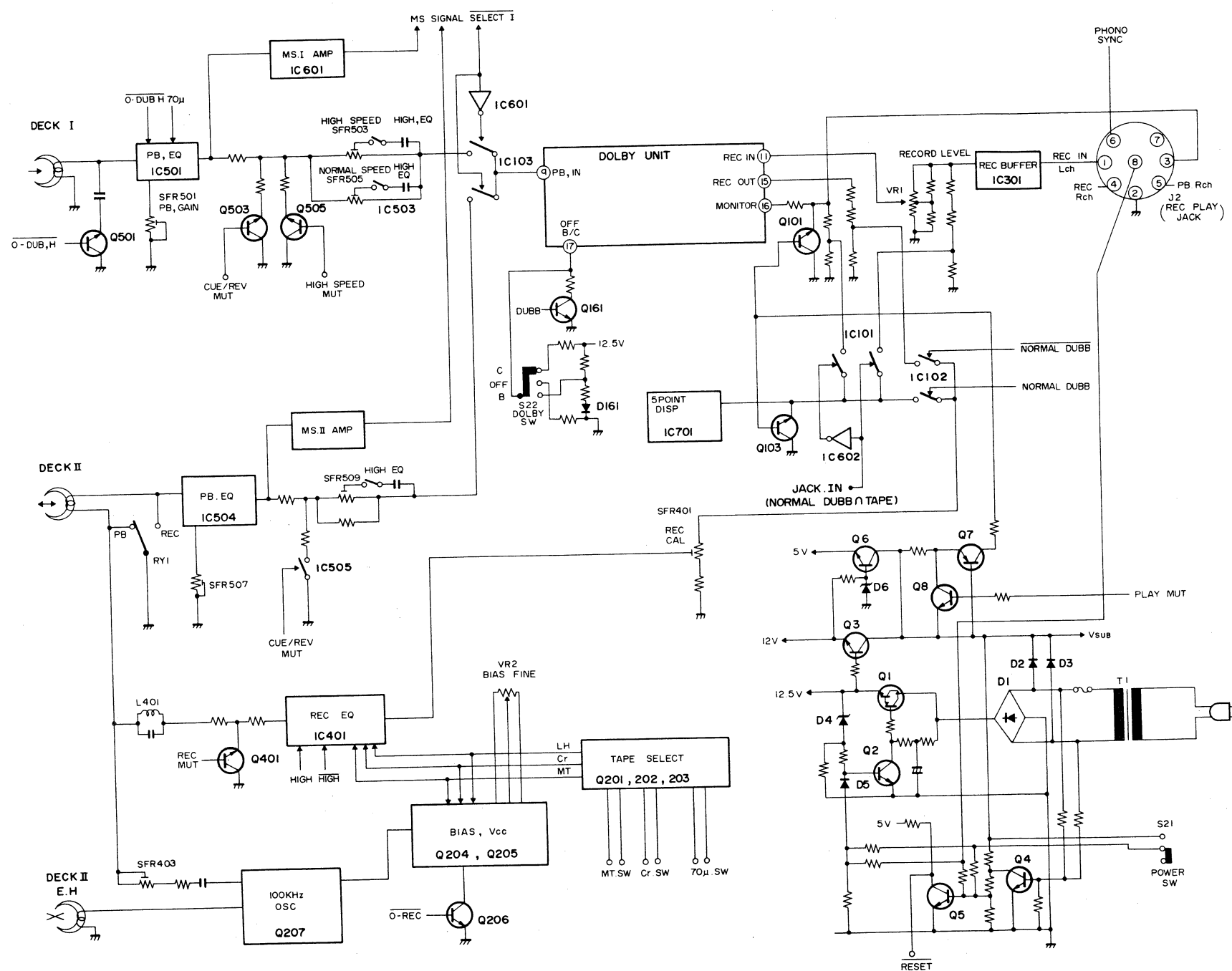
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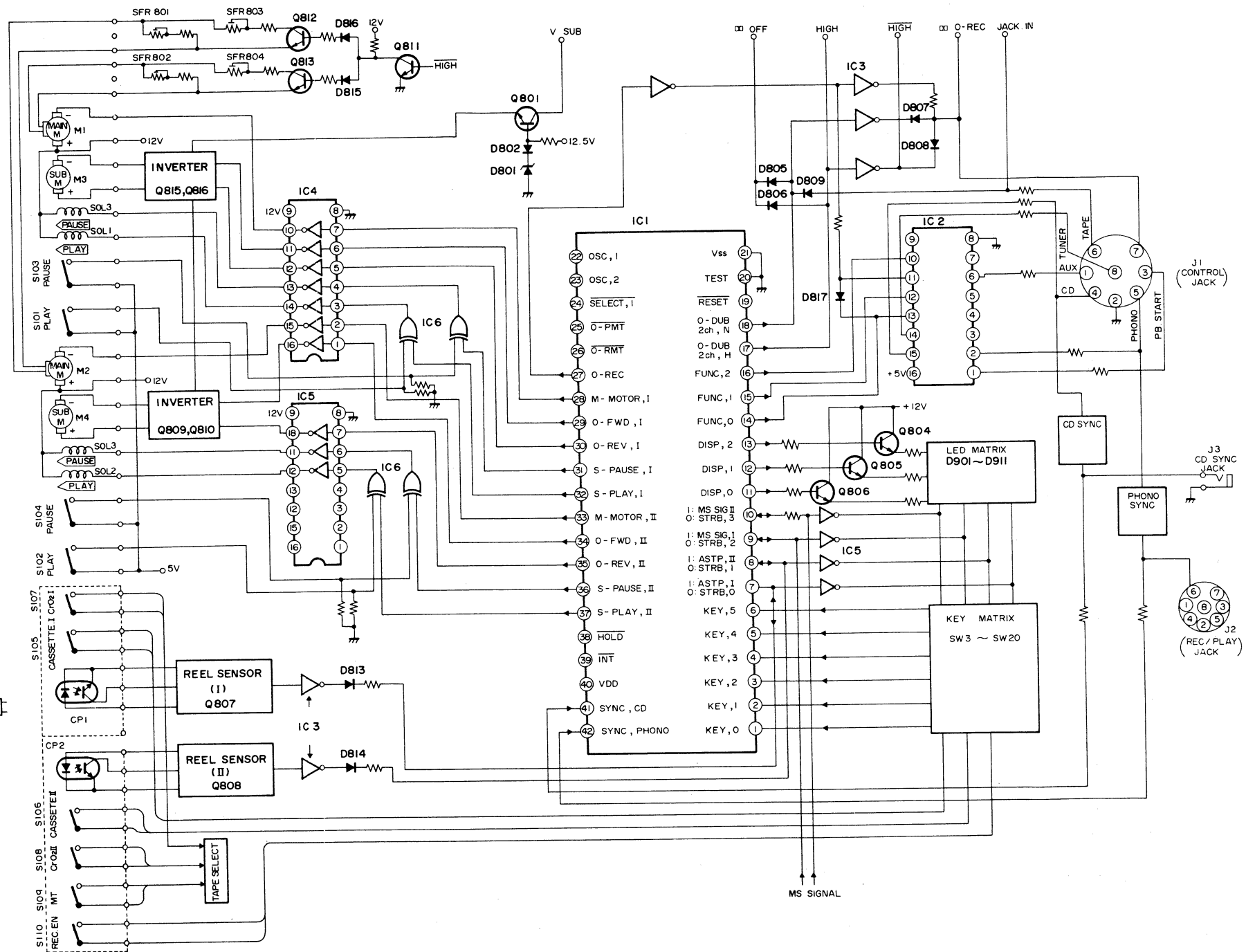
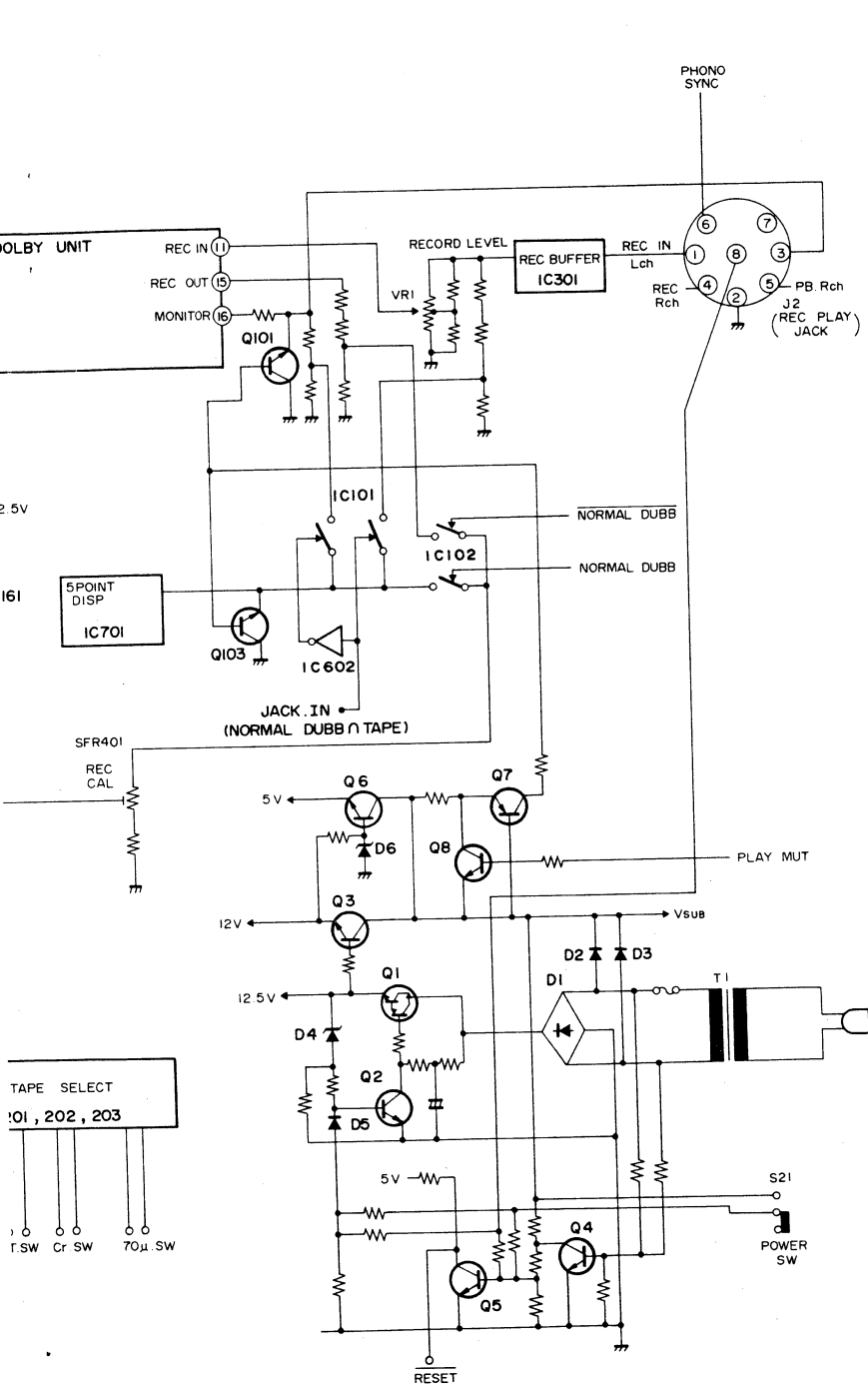
Required items and availabilities may be limited.

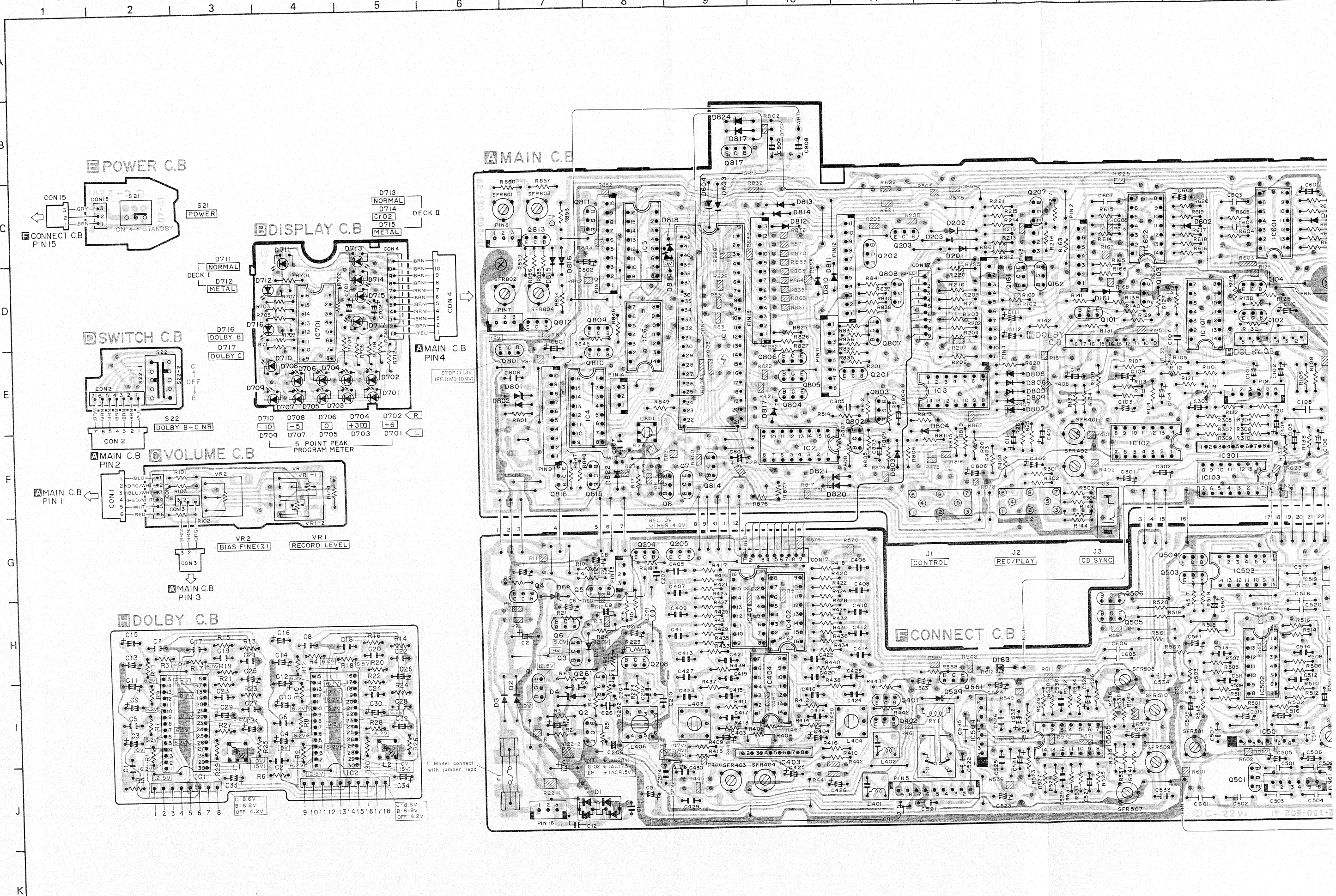
Symbol No.	Part No.	Description	Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
< CAPACITORS >			SFR403.	87-021-745	SFR. 47k Ω -B	S1.2.3.4.5.	87-031-771	TACT SWICTH (HIGH SPEED
C603.607	87-018-036	220 μ F CERAMIC	404.			6.7.8.9.		DUBBING[DECKI]. NORMAL
C604.608.	87-018-044	1000 μ F CERAMIC	509.			10.11.		DUBBING[DECKI]. PAUSE
807			510			12-1.12-2.		[DECKI]. STOP[DECKI]. F.
< DISPLAY CIRCUIT BOARD SECTION >			SFR501.	87-021-734	SFR. 100 Ω -B	13.14.15.		FWD/CUE[DECKI]. PLAY
PCB-B	*	DISPLAY CIRCUIT BOARD	502.			16.17		[DECKI]. REW/REVIEW[DECK
D701.702.	87-027-542	LED.LN217RP (5 POINT	507.					I]. REC MUTE[DECKII].PAUSE
703.704.		PEAK PROGRAM METER.	508					[DECKII]. STOP[DECKII]. F.
712.715.		METAL [DECKI]. METAL	SFR503.	87-021-867	SFR. 47k Ω -B			FWD/CUE[DECKII]. PLAY
717		[DECKII]. DOLBY C)	504.					[DECKII]. REW/REVIEW
D705.706.	87-027-543	LED.LN317GP (5 POINT	505.					[DECKII]. AUX. CD. PHONO.
707.708.		PEAK PROGRAM METER.	506					TUNER)
709.710.		NORMAL [DECKI]. NORMAL	Δ F1	87-035-253	FUSE. 2A (H only)	S20	87-031-695	SLIDE SWITCH (TIMER)
711.713.		[DECKII]. DOLBY B)	Δ F1	87-035-190	FUSE "T" 2A (E. K. G only)	CON13	★82-130-621	CONNECTOR Ass'y. 13P
716				★87-033-147	FUSE CLAMP	CON14	★82-130-628	CONNECTOR Ass'y. 3P
D714	87-027-671	LED. LN417YP (CrO ₂	PIN5	★87-049-279	PIN. 9P	< DOLBY CIRCUIT BOARD SECTION >		
		[DECKII])	PIN6	★87-049-276	PIN. 6P	87-020-132	DOLBY UNIT HA12058J	
CON4	★82-130-622	CONNECTOR Ass'y. 11P	PIN15.16	★87-049-273	PIN. 3P	< AUTO CIRCUIT BOARD SECTION >		
< CAPACITOR >			Δ R223.261	87-029-089	< RESISTOR >	PCB-I	81-505-605	AUTO CIRCUIT BOARD
C701.702	87-015-967	3.3 μ F 25V ELECTROLYTIC SRE			4.7 Ω 1/4W	CP1.2	87-027-644	PHOTO SENSOR NJL-5141EA
< VOLUME CIRCUIT BOARD SECTION >					FUSE RESISTOR	< SUB CIRCUIT BOARD SECTION >		
PCB-C	*	VOLUME CIRCUIT BOARD	C204	87-014-061	< CAPACITORS >	PCB-J	*	SUB CIRCUIT BOARD
VR1	82-130-635	VOLUME. 10k Ω -A(RECORD	C207.601.	87-018-044	1500 μ F PP			
		LEVEL)	602.604.		1000 μ F CERAMIC	< MISCELLANEOUS >		
VR2	82-130-636	VOLUME. 10k Ω -B(BIAS FINE)	605.606.			Δ T1	82-130-617	POWER TRANSFORMER (H only)
CON1	★82-130-624	CONNECTOR Ass'y. 6P	608			Δ T1	82-130-616	POWER TRANSFORMER (U only)
CON3	★82-130-626	CONNECTOR Ass'y. 3P	C413.414.	87-018-047	0.01 μ F 16V CERAMIC	Δ T1	82-130-618	POWER TRANSFORMER (E. Z
< SWITCH CIRCUIT BOARD SECTION >			419.420					only)
PCB-D	*	SWITCH CIRCUIT BOARD	C429.430	87-018-034	150 μ F CERAMIC	Δ T1	82-130-619	POWER TRANSFORMER (K. G
S22	82-198-602	ROTARY SWITCH(DOLBY B-C)	C501.502	87-018-033	120 μ F CERAMIC			only)
CON2	★82-130-623	CONNECTOR Ass'y. 7P	C505.506	87-015-954	10 μ F 16V ELECTROLYTIC LL	M1.2	81-506-605	MOTOR BFB2L71[DECKI.
< POWER CIRCUIT BOARD SECTION >			< KEY CIRCUIT BOARD SECTION >			DECKII]		
PCB-E	*	POWER CIRCUIT BOARD	PCB-G	82-130-612	KEY CIRCUIT BOARD	M3.4	81-505-604	REEL MOTOR [DECKI.
S21	87-031-787	PUSH SWITCH (POWER)	D901.902.	87-020-168	LED. SLP177B (NORMAL	PH	87-046-226	PB HEAD [DECKI]
CON15	★82-130-625	CONNECTOR Ass'y. 3P	903.904.		DUBBING [DECKI]. HIGH	RPH	87-046-226	REC/PB HEAD [DECKII]
< CONNECT CIRCUIT BOARD SECTION >			905.908.		SPEED DUBBING [DECKI].	EH	87-046-196	EARTH HEAD [DECKII]
PCB-F	*	CONNECT CIRCUIT BOARD	911		PHONO. CD. AUX. TUNER.		82-598-622	EH DUMMY
D1	87-027-376	1B4B41	D906.909	83-203-731	REC MUTE[DECKII])	S101.102.	81-505-601	LEAF SWITCH (PLAY
D2.3	87-027-365	S5277B			LED. TLUG163 (PLAY	103.104		[DECKI]. PLAY [DECKII].
D4	87-027-686	ZENER. HZ12A1	D907.910	87-020-170	[DECKII]. PLAY[DECKI])			PAUSE [DECKI]. PAUSE
D5.529	87-027-097	1S1555			LED. SLP477B (PAUSE	S105.106.	81-505-607	[DECKII])
D6	87-027-475	ZENER. HZ6B1	D912.913.	87-027-097	[DECKII]. PAUSE[DECKI])	110		LEAF SWITCH (CASSETTE
L201	87-003-051	CHOKE COIL. 470 μ H	914.915.		1S1555			[DECKI]. CASSETTE[DECKII].
L401.402	82-196-603	TRAP COIL. 100k	916.917.			S107.108.	81-505-602	REC EN [DECKII])
L403.404	82-196-604	COIL. 2.2/6.8 μ H	918.919.			109		LEAF SWITCH (CrO ₂ [DECKI].
L406	82-130-639	OSC COIL. 100k	920.921.			S23	87-031-586	CrO ₂ [DECKII]. METAL[DECKII])
RY1	87-045-218	RELAY FBR244D012-A59	922.923.					ROTARY SWITCH (VOLTAGE
			924.925.					SELECTOR) (H only)
			926.927.					
			928.929					

To overleaf of 3 / 3

BLOCK DIAGRAM (FX-W50)



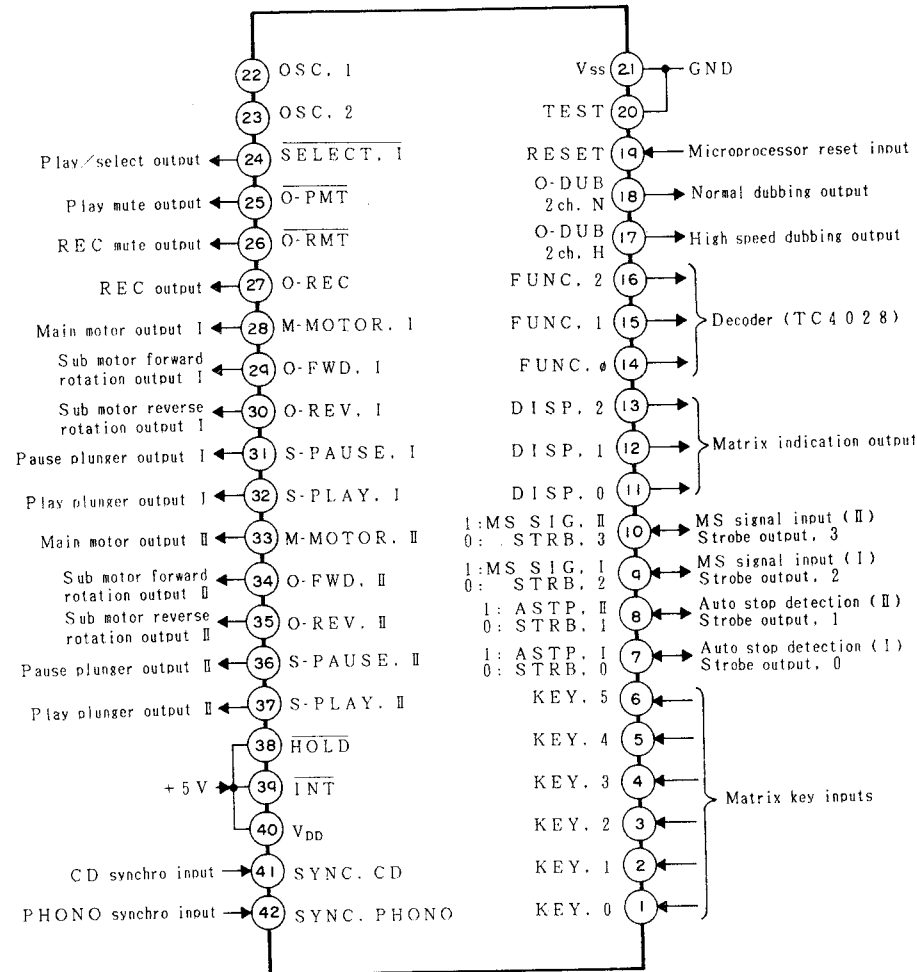




- NOTES (1) Earth pattern Printed resistor pattern Others pattern
 (2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.

CIRCUIT DESCRIPTION Description of IC1 LC6502C

Terminal name



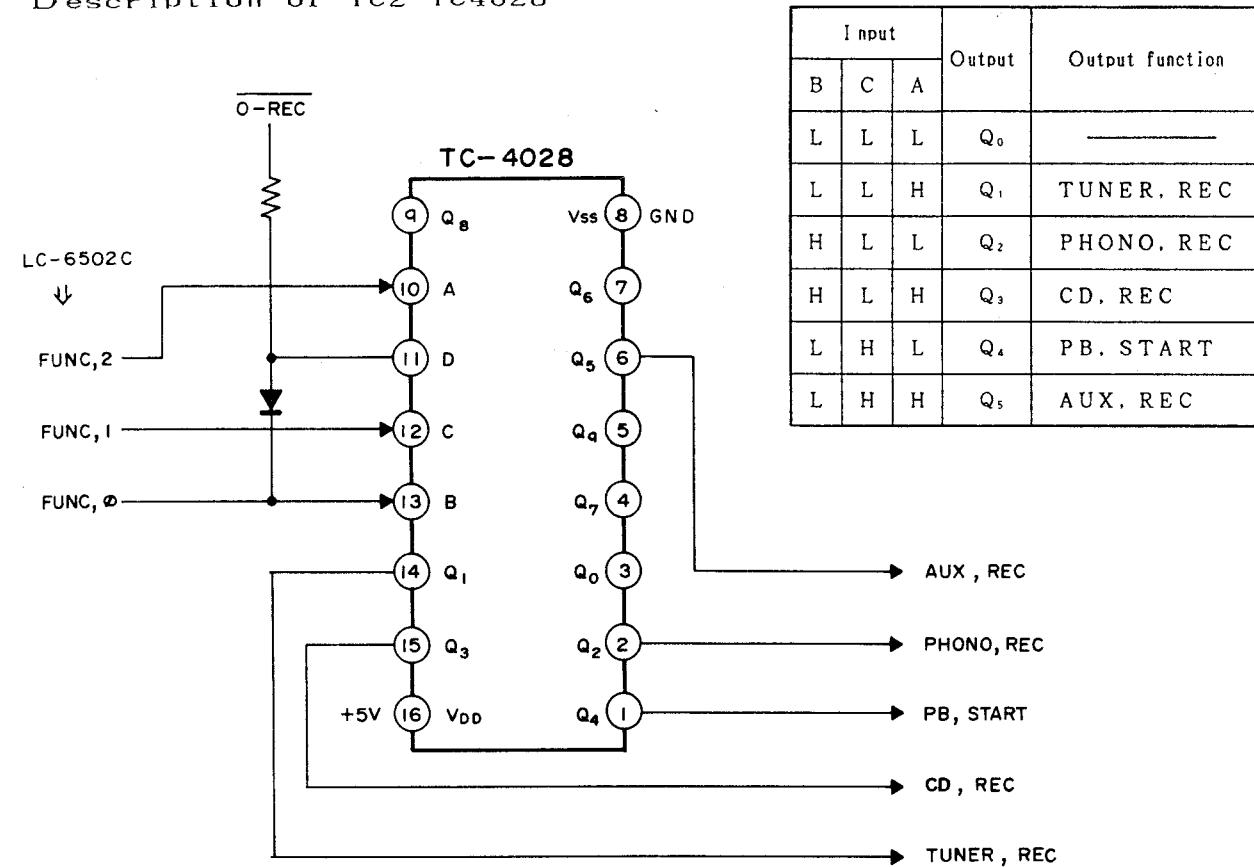
The direction of the arrow shows the signal flow.

Pin description

Pin No.	Pin mark	Functional description			
1	KEY. 0	Become various key inputs via the matrix with the strobe outputs 0~3.			
2	KEY. 1				
6	KEY. 5				
7	ASTP. I STRB. 0	Detects the auto stop of mechanism I when working as an input pin. Becomes the strobe output when working as an output pin.			
8	ASTP. II STRB. 1	Detects the auto stop of mechanism II when working as an input pin. Becomes the strobe output when working as an output pin.			
9	MS SIG. I STRB. 2	Detect the MS of mechanism I when working as an input pin. Becomes the strobe output when working as an output pin.			
10	MS SIG. II STRB. 3	Detects the MS of mechanism II when working as an input pin. Becomes the strobe output when working as an output pin.			
		STRB. 0 : "H" level	STRB. 1 : "H" level	STRB. 2 : "H" level	STRB. 3 : "H" level
11	DISP. 0	PLAY indication (I)	PLAY indication (II)	PHONO REC indication	NORMAL DUBB indication
12	DISP. 1	PAUSE indication (I)	PAUSE indication (II)	CD REC indication	HIGH DUBB indication

Pin No.	Pin mark	Functional description			
13	DISP. 2	REC. MUT indication	TUNER REC indication	AUX REC indication	
14 15 16	FUNC. 0 FUNC. 1 FUNC. 2	The signal is output to the decoder (TC4028) and converted to the synchro-recording output.			
17	O-DUB 2ch H	"H" signal is output only during double speed dubbing.			
18	O-DUB 2ch N	"H" signal is output only during the normal speed dubbing.			
19	RESET	The MPU is set with "H" signal input approx. 2 sec later than the power supply (VDD).			
20 21	TEST VSS	Connected to GND.			
22 23	OSC. 1 OSC. 2	The 400kHz clock frequency is produced by connection of L. C. R circuits.			
24	SELECT. I	Selects the play of mechanisms I and II. When this pin is set to "H", playback with mechanism II is output.			
25	O-PMT	Play mute is applied when this pin is set to "L".			
26	O-RMT	Record mute is applied with this pin set to "L".			
27	O-REC	Outputs "H" signal during recording and dubbing.			
28	M-MOTOR. I	Outputs "H" signal in the F.F. and FWD modes while playing back mechanism I.			
29	O-FWD. I	This is the sub-motor forward rotation output; "H" signal is output in the RWD and REV modes with mechanism I.			
30	O-REV. I	This is the sub-motor reverse rotation output; "H" signal is output in the REW and REV modes with mechanism I.			
31	S-PAUSE. I	This is the pause plunger output; "H" signal is output in the CUE and REV modes with mechanism I set to the pause mode.			
32	S-PLAY. I	This is the play plunger output; "H" signal is output during play with mechanism I.			
33	M-MOTOR. II	"H" signal is output in the FF and FWD modes during recording with mechanism II.			
34	O-FWD. II	This is the sub-motor forward rotation output; "H" signal is output in the FF and CUE modes of mechanism II.			
35	O-REV. II	This is the sub-motor reverse rotation output; "H" signal is output in the RWD and REV modes with mechanism II.			
36	S-PAUSE. II	This is the pause plunger output; "H" signal is output during pause of mechanism II. and the CUE and REV modes.			
37	S-PLAY. II	This is the play plunger output; "H" signal is output during recording with mechanism II.			
38 39 40	HOLD INT VDD	Connected to +5V.			
41	SYNC. CD	When "L" signal is input to this pin during synchro-recording, the unit enters the record/play mode, and when "H" signal is input, the unit enters the record pause mode.			
42	SYNC. PHONO	When "L" signal is input to this pin during synchro-recording, the unit enters the record/play mode, and when "H" signal is input, the unit enters the record pause mode.			

Description of IC2 TC4028



Input			Output	Output function
B	C	A		
L	L	L	Q_0	_____
L	L	H	Q_1	TUNER, REC
H	L	L	Q_2	PHONO, REC
H	L	H	Q_3	CD, REC
L	H	L	Q_4	PB, START
L	H	H	Q_5	AUX, REC

Symbol No.	Part No.	Description
SOL1.2.3. 4	81-505-603	SOLENOID ([DECK I], [DECK II], [DECK I], [DECK II])
△	★87-085-184 87-085-185	CODE BUSHING (H. U only) CORD BUSHING (E. K. G. Z only)
△	87-033-140	SPLICE CONNECTOR (H only)
△	87-034-962	AC POWER CORD (HS only)
△	87-034-992	AC POWER CORD (HB only)
△	87-034-578	AC POWER CORD (UB only)
△	82-788-674	AC POWER CORD (E. ZB only)
△	87-034-710	AC POWER CORD (KS only)
△	87-034-708	AC POWER CORD (KB. G only)
CON5	★82-130-630	CONNECTOR Ass'y, 9 P[DECK II]
CON6	★82-130-633	CONNECTOR Ass'y, 6 P[DECK I]
CON7	★82-130-644	CONNECTOR Ass'y, 3 P[DECK II]
CON8	★82-130-643	CONNECTOR Ass'y, 3 P[DECK I]
CON9	★82-196-629	CONNECTOR Ass'y, 10P[DECK I]
CON10	★82-196-635	CONNECTOR Ass'y, 10P[DECK II]
CON11	★82-196-628	CONNECTOR Ass'y, 8 P[DECK I]
CON12	★82-196-634	CONNECTOR Ass'y, 11P[DECK II]

Note; Combination Circuit Board

The parts on the electrical parts list which are indicated by an asterisk (*) are supplied as one single combined circuit board. Therefore, they will not be supplied separately. If this becomes necessary, please order the entire circuit board.

Combination circuit board 82-130-601

- | | |
|-------|------------|
| PCB-A | 82-130-603 |
| PCB-B | 82-130-604 |
| PCB-C | 82-130-605 |
| PCB-D | 82-130-606 |
| PCB-E | 82-130-607 |
| PCB-F | 82-130-602 |
| PCB-J | 82-130-608 |

Description of pin (11) (D-terminal)

When the D terminal is set to "H", the $Q_1 \sim Q_5$ outputs are set to "L" regardless of A, B and C.

The function of the amp. is prevented from being set to "PHONO" with the power set to OFF by the diode and resistor.

Description of terms

- PB. START No. 3 pin of the control jack. When mechanism I or II is set to the play mode, a pulse is output to this pin, and the function of the amp. is set to "TAPE".
- FIX No. 7 pin of the control jack. When synchro-recording is performed by the deck, this pin is set to "H" from "L", and the function of the amp. is fixed.
The function is fixed only during synchro-recording and the function can be changed over during dubbing.
- JACK IN This is a name used in the circuit and is not output externally. When the function of the amp is set to "TAPE" during normal speed dubbing, the play signal of mechanism I is input from the DIN JACK via the amp. "JACK IN" is the control signal which is set to "H" when the function of the amp is set to "TAPE" during normal speed dubbing.